INSTALLATION

310 Series Camclosure® Integrated Camera System

C2496M-A (1/06)

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. Only use attachments/accessories specified by the manufacturer.
8. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
10. Installation should be done only by qualified personnel and conform to all local codes.
11. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
12. Use only installation methods and materials capable of supporting four times the maximum specified load.
13. Use stainless steel hardware to fasten the mount to outdoor surfaces.
14. To prevent damage from water leakage when installing a mount outdoors on a roof or wall, apply sealant around the bolt holes between the mount and mounting surface.
15. **CAUTION:** These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other that contained in the operating instructions unless you are qualified to do so.
16. Only use replacement parts recommended by Pelco.

The product and/or manual may bear the following marks:

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:
RISK OF ELECTRIC SHOCK. DO NOT OPEN.

REGULATORY NOTICES

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC, Class A (black-white, EIA and CCIR cameras – except auto iris models)

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

FCC, Class B (color, NTSC and PAL cameras – except auto iris models)

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Description

The 310 Series Camclosure® integrated camera system is a track-light design that mounts to a wall or ceiling. The system incorporates a camera and lens package into a small, unobstructive, medium-security enclosure designed for areas subject to vandalism. The system is quick and easy to install in a variety of indoor or outdoor applications. It is ideal for residential, office, mall, hospital, school, parking garage, correction and detention, and other medium-security installations subject to vandalism.

Installation

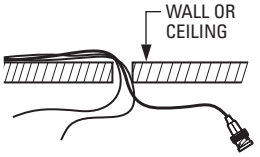
The following parts are supplied:

1 Camclosure integrated camera system
2 9-pin electrical connectors (12 VDC and 24 VAC)
1 Hollow screwdriver bit (1/8-inch)

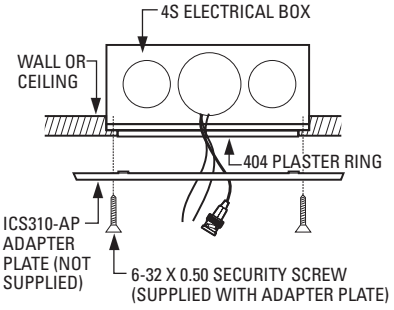
PREPARE WALL OR CEILING

Prepare the wall or ceiling according to one of the options shown below.

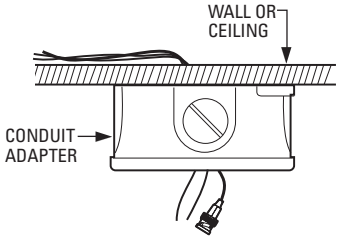
- Mounting directly to wall or ceiling



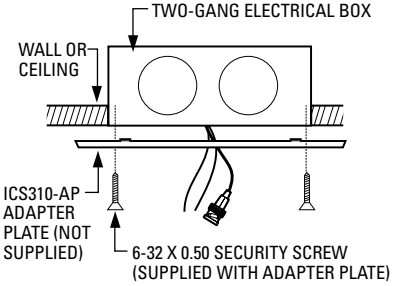
- Mounting to a 4S electrical box with 404 plaster ring



- Mounting to ICS310-COND conduit adapter (not supplied)

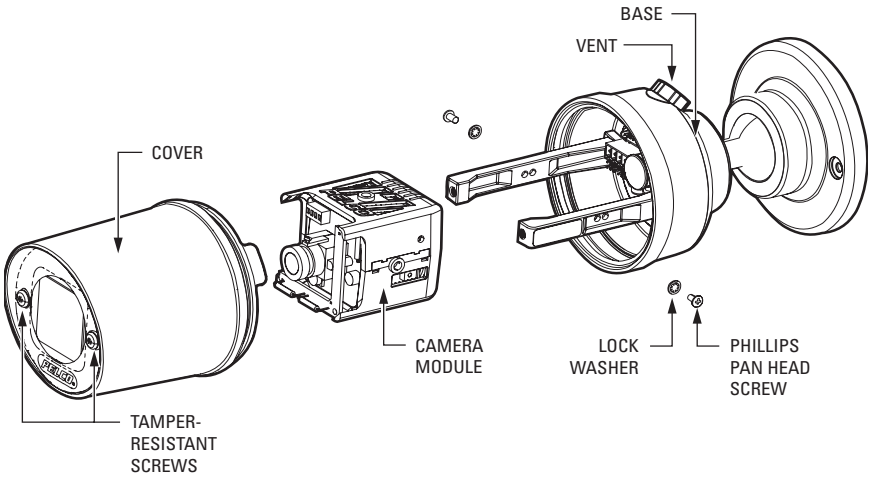


- Mounting to a two-gang electrical box

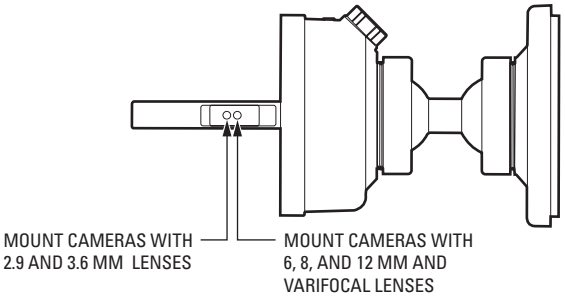


CONNECT VIDEO AND POWER

1. Some indoor installations do not require a heater. If the installation does not require a heater, disconnect the heater wiring.
   a. Remove the cover with the supplied 1/8-inch hollow screwdriver bit.
   b. Remove the camera from the mounting bracket, and unplug the four-pin heater connector in the base. The connector has orange, red, and black wires.
   c. Reinstall the camera. If the camera has a varifocal lens, leave the cover off; it will be reinstalled later. Otherwise, reinstall the cover.
2. Depending on the input voltage, wire either the 12 VDC or 24 VAC connector (supplied) to the input power wires. Plug the connector into the mating connector in the base.
3. Connect the video cable.



⚠ **WARNING:** To prevent damage to the camera or lens, the camera must be installed in the proper hole of the mounting bracket. If the camera is not installed in the correct hole, the window of the enclosure may be forced against the lens.



ATTACH BASE

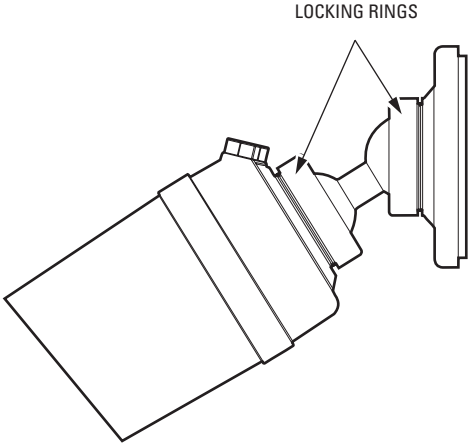
Release the base locking ring for access to the mounting holes.

To attach the base to an adapter plate or conduit adapter, two 6-32 x 1.25-inch tamper-resistant screws are supplied with the adapters. Use the 1/8-inch hollow screwdriver bit supplied with the Camclosure.

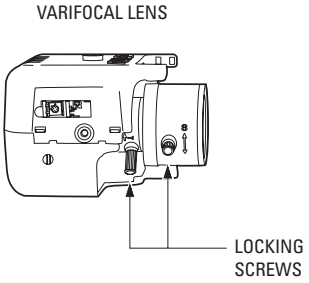
Mounting hardware for all other applications is not supplied.

ADJUST ENCLOSURE

Turn on power to the camera and monitor. Release one or both locking rings, swivel the enclosure until the angle of the camera is correct, and tighten the locking rings.



If you have a varifocal lens, remove the cover with the supplied 1/8-inch hollow screwdriver bit. Loosen the focal length and focus locking screws. Adjust according to scene detail. Retighten the screws. Reseat the O-ring on the cover and reinstall the cover.



> ⚠ **WARNING:** Heater elements could be hot! When camera power is on, use caution when adjusting the camera. This applies to all models.

Adjustments (Color Camera Only)

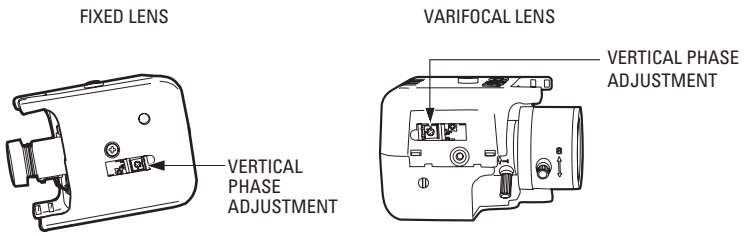
If you have a color camera, it is set up at the factory and normally requires no adjustments. Sometimes, however, adjustments may be necessary.

1. Remove the cover using the supplied 1/8-inch hollow screwdriver bit.
2. Adjust the vertical phase, iris level, focus, or switch settings (refer to procedures below).
3. Reseat the O-ring on the cover and reinstall the cover.

VERTICAL PHASE (24 VAC OPERATION ONLY)

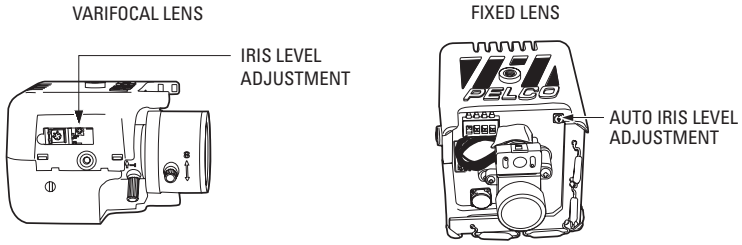
Adjustment is required if there is vertical roll when switching between two cameras.

1. Reverse the 24 VAC connections on one camera. If both cameras are connected to the same transformer, this should solve the problem.
2. If reversing the connections does not solve the problem, or if cameras are connected to different transformers, turn the adjustment screw (on the power board on the back of the camera assembly) on one camera (while switching as rapidly as possible between the two camera views) until the switching is clean and there is no vertical roll. If more than two cameras are out of synchronization with each other, choose one camera and synchronize all others to it.



AUTO IRIS LEVEL ADJUSTMENT

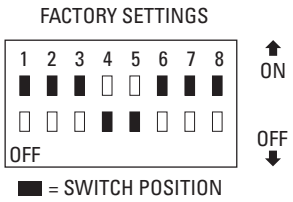
If you have a varifocal lens or fixed focal length lens with an auto iris, you can adjust the iris level setting to increase or decrease brightness.



SWITCH SETTINGS FOR VARIFOCAL LENS

The high resolution camera with varifocal lens and auto iris is configured at the factory for automatic exposure.

	1	AWB	Automatic white balance
	2	GAM	Gamma function
AE Functions	3	AGC	Automatic gain control
	4	ESC	Electronic shutter control
	5	BLC	Backlight compensation
	6	FL	Flickerless
	7	AE	Automatic exposure
	8	Not used	



For manually setting and locking the white balance, place a white background in front of camera and turn off switch 1.

For gamma correction, switch to accurately reproduce scene brightness; when turned on, y = 0.6, and when turned off, y = 1.0.

For automatic exposure, turn on switch 7, and then turn on/off switch 3 for AGC, switch 4 for electronic shutter control, switch 5 for backlight compensation, and switch 6 for flickerless motion.

For manual exposure and to enable auto iris, turn off switch 7; set switch 3 on to increase the gain by 18 dB; set switches 4, 5, and 6 for the desired shutter speed.

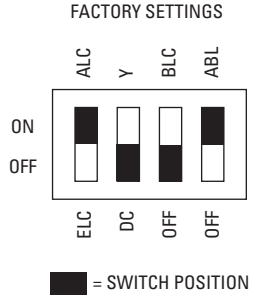
⚠ **WARNING:** Do not change the shutter speed unless you understand how changing the settings will affect the scene detail.

Shutter Speed	Switch Number and Position			
	7	6	5	4
1/60 (NTSC) 1/50 (PAL)	Off	On	On	On
1/100		Off	On	On
1/250		On	Off	On
1/500		Off	Off	On
1/1000		On	On	Off
1/2000		Off	On	Off
1/4000		On	Off	Off
1/10000		Off	Off	Off

SWITCH SETTINGS FOR FIXED FOCAL LENGTH LENS WITH AUTO IRIS

Refer to the switch drawing. The switch is located next to the lens. Automatic backlight compensation (factory setting) is used under varying lighting conditions (such as outdoors) or fixed lighting conditions where there are no bright spots that darken other picture details. Manual backlight compensation is used in fixed lighting conditions to optimize the picture detail when there are bright spots.

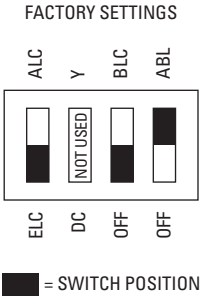
ALC/ELC switch:	Always ALC
Y/DC switch:	Always DC
Auto backlight compensation:	BLC switch OFF ABL switch ON
Manual backlight compensation:	BLC switch ON ABL switch OFF



SWITCH SETTINGS FOR FIXED FOCAL LENGTH LENS WITHOUT AUTO IRIS

Refer to the switch drawing. The switch is located next to the lens. Automatic backlight compensation (factory setting) is used under varying lighting conditions (such as outdoors) or fixed lighting conditions where there are no bright spots that darken other picture details. Manual backlight compensation is used in fixed lighting conditions to optimize the picture detail when there are bright spots.

ALC/ELC switch:	Always ELC
Y/DC switch:	Not used
Auto backlight compensation:	BLC switch OFF ABL switch ON
Manual backlight compensation:	BLC switch ON ABL switch OFF



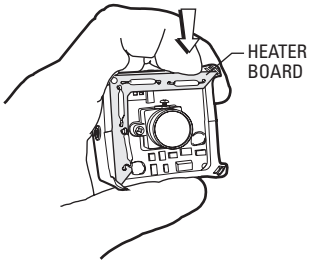
FOCUS ADJUSTMENT FOR FIXED FOCAL LENGTH LENS WITH AUTO IRIS

⚠ **WARNING:** Heater elements could be hot! When camera power is on, use caution when adjusting the camera.

To adjust the focus, it may be necessary to remove the heater board in order to loosen the locking screw on the bottom of the lens.

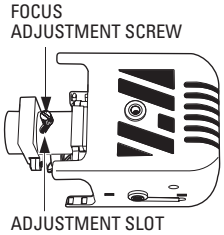
To remove the heater board:

1. Disconnect the four-pin heater wiring.
2. Wait for the heater elements to cool if they are hot.
3. Press on an end of the board.



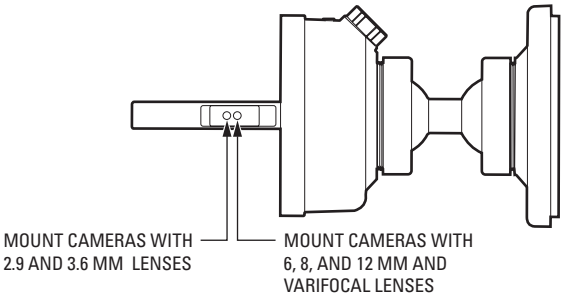
To adjust the focus:

1. Loosen the locking screw on the bottom of the lens.
2. Move the screw in the slot to bring the picture into focus.
3. Retighten the locking screw.
4. Replace the heater board if it was removed.
5. Reconnect the four-pin heater wiring.



BOTTOM VIEW OF CAMERA
WITH HEATER BOARD REMOVED

⚠ **WARNING:** To prevent damage to the camera or lens, the camera must be installed in the proper hole of the mounting bracket. If the camera is not installed in the correct hole, the window of the enclosure may be forced against the lens.



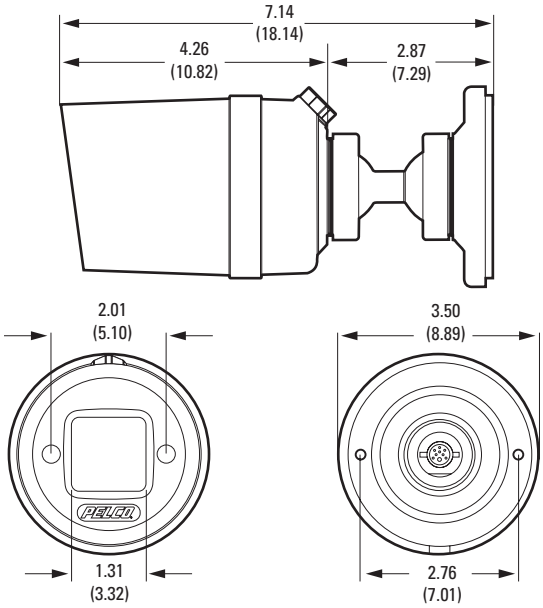
Specifications

General

Pan/Tilt Adjustment	Manual; 180° pan; 180° tilt
Construction	Aluminum base and cover, steel camera mounting bracket
Finish	Gray polyester powder coat
Environment	Low temperature, indoor/outdoor
Operating Temperature	-50° to 122°F (-46° to 50°C); de-ices to -10°F (-23°C)
Heater	Turns on at 50°F (10°C) and off at 80°F (27°C)
Unit Weight	1.45 lb (6 kg)

Electrical

Input Voltage	12 VDC or 24 VAC, ±10%
Power Consumption	13 watts or less
Video Connector	BNC



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS;
ALL OTHERS ARE INCHES.

(Design and product specifications subject to change without notice.)

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FT/FR8000 Series fiber optic products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL 200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra®, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit® and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, Endura™ Series distributed network-based video products, and TW3000 Series twisted pair transmission products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

REVISION HISTORY

Manual #	Date	Comments
C2496M	10/05	Original version.
C2496M-A	1/06	Updated factory switch settings for varifocal lens.

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